

CLAIM AMENDMENTS

Claim 1 (original):

A cutting machine comprising:
a blade configured to cut a workpiece;
a detection system configured to detect a dangerous condition between a person and the blade;
a reaction system adapted to perform a specified action; and
a fusible member adapted to fuse to trigger the reaction system to perform the specified action upon detection of the dangerous condition.

Claim 2 (original):

A cutting machine comprising:
a support structure;
a cutting tool adapted to cut a workpiece, where the cutting tool is supported by the support structure;
a detection system adapted to detect a dangerous condition between the cutting tool and a person;
a reaction system adapted to perform a specified action upon detection of the dangerous condition;
a fusible member to trigger the reaction system to perform the specified action upon fusing of the fusible member; and
a firing subsystem to fuse the fusible member upon detection of the dangerous condition.

Claim 3 (original):

The machine of claim 2, where the dangerous condition is contact between the person and the blade.

Claim 4 (currently amended):

The machine of claim 2, where the reaction system is a brake mechanism and where the specified action is to brake decelerate the blade.

Claim 5 (original):

The machine of claim 2, where the fusible member is wire.

Claim 6 (withdrawn):

The machine of claim 5, where the wire has a diameter of less than 0.025 inch.

Claim 7 (withdrawn):

The machine of claim 5, where the wire has a diameter of less than 0.015 inch.

Claim 8 (original):

The machine of claim 2, where the fusible member is held in tension.

Claim 9 (original):

The machine of claim 2, where the firing subsystem includes at least two spaced-apart electrodes adapted to conduct electrical current, and where at least a portion of the fusible member is positioned to contact and extend between the electrodes.

Claim 10 (currently amended):

The machine of claim 9, where the spacing between the electrodes is less than 1.0 inch (25.4 millimeters).

Claim 11 (currently amended):

The machine of claim 9, where the spacing between the electrodes is less than 0.1 inch (2.54 millimeters).

Claim 12 (currently amended):

The machine of claim 9, where the spacing between the electrodes is less than 0.05 inch (1.27 millimeters).

Claim 13 (original):

The machine of claim 9, where the electrodes are traces on a circuit board.

Claim 14 (original):

The machine of claim 2, where the firing subsystem includes at least one capacitor.

Claim 15 (original):

The machine of claim 2, where the firing subsystem includes at least one silicon controlled rectifier.

Claim 16-20 (cancelled).

Claim 21 (original):

A cutting machine comprising:

a cutting tool;

a detection system adapted to detect contact between a person and the cutting tool; and

a brake system including a brake pawl adapted to engage and stop the cutting tool when the detection system detects contact between the person and the cutter;

where the brake system includes a release mechanism adapted to selectively restrain the brake pawl from engaging the cutter until the detection system detects contact between the person and the cutter; and

where the release mechanism includes a fuse wire that is melted upon detection of contact between the person and the cutter.

Claims 22-24 (cancelled).

Claim 25 (original):

A cutting machine comprising:

a cutter;

a brake adapted to stop the cutter, where the brake has an idle position and a braking position; and

an actuation system adapted to selectively move the brake from the idle position to the braking position, where at least a portion of the actuation system must be replaced after moving the brake from the idle position to the braking position.

Claim 26 (original):

The machine of claim 25, wherein the actuation system includes a fusible member that is melted to allow the brake to move from the idle position to the braking position.

Claim 27-29 (cancelled).

Claim 30 (currently amended):

A mechanical release comprising:

an electrode system including first and second electrodes electrically connected to a current source;

a fusible member electrically interconnecting the electrodes; and

an electrical gate system interposed between at least one of the electrodes and the current source to selectively control flow of current from the current source to the at least one electrode, where the fusible member carries a tensile load of at least 10,000 psi (68.95 MPa) between the electrodes, and where the electrical gate system is adapted to selectively control the flow of sufficient current to fuse the fusible member in less than 10 milliseconds.

Claim 31 (currently amended):

The mechanical release of claim 30, wherein the fusible member has a tensile strength of at least 100,000 psi (689.5 MPa).

Claim 32 (original):

The mechanical release of claim 30, wherein the fusible member is formed from a material chosen from the group consisting of stainless steel and nichrome.

Claim 33 (original):

The mechanical release of claim 30, wherein the fusible member is spring tempered.

Claim 34 (original):

A cutting machine comprising:

a support structure;

cutting means for cutting a workpiece, where the cutting means is supported by the support structure;

detection means for detecting a dangerous condition between the cutting means and a person;

reaction means for performing a specified action upon detection of the dangerous condition;

fusible means for triggering the reaction means to perform the specified action upon fusing of the fusible means; and

firing means for fusing the fusible member upon detection of the dangerous condition.

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